SWISSBIT PRODUCT FEATURES

WIDE TEMPERATURE SUPPORT

Swissbit's storage solutions are designed and approved to operate reliably over a wide temperature range. The products are verified at temperature corners and pre-stressed with a burn-in operating functional test (Test During Burn In – TDBI).

ESD AND EMI SAFE

The product designs are in line with the latest regulations for electrostatic discharge and electromagnetic interference. Swissbit strives to exceed these limits with our own in-house technology and production capabilities, for example with System-in-Package (SiP) competence.

SHOCK AND VIBRATION

Robustness is one of our key specification targets. The design, assembly and use of selected materials guarantee an extremely solid design which has been validated by extensive testing.

LIFE TIME MONITORING (LTM)

The Swissbit Life Time Monitoring feature enables users to access the memory device's detailed Life Time Status and allows predicting imminent failure avoiding unexpected data loss. This feature uses an extended S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) interface or vendor specific commands to retrieve the Flash product information.

ZONE PROTECTION

The device allows the configuration of multiple zones with either no protection, write protection or access protected settings. Each zone is secured with a separate password. A Windows tool or a programming library are available.

SECURE ERASE (SANITIZE/PURGE)/ FAST ERASE

This feature uses an uninterruptable sequence of data erase commands. Even a power off can't stop the process which will continue upon restoration of power. The optional enhanced feature allows the customer to sanitize the data according to different standards like DoD, NSA, IREC, etc. The purge algorithm can be started by a software command or through a hardware pin.

CONFORMAL COATING

Swissbit offers a special protective coating on selected products. This coating is a thin polyurethane film which protects against aggressive environmental conditions such as dust, moisture or corrosive gas.

TEMPERATURE SENSOR

The sensor allows the host hardware or software to monitor the memory device temperature to improve data reliability in the target application environment.

HEAT SPREADER

Heat Spreaders for DRAM modules allow temperature hot spots to be dissipated over a larger surface area and improve the module's reliability.

POWER FAIL PROTECTION & RECOVERY

Intelligent Power Fail Protection & Recovery protects data from unexpected power loss. During an unintentional shutdown, firmware routines and an intelligent hardware architecture ensure that all system and user data will be stored to the NAND.

WEAR LEVELING

Sophisticated Wear Leveling & Bad Block Managementensure that Flash cells are sparingly and equally used in order to prolong life time of the device.

READ-ONLY OPTIMIZED

In many industrial applications the data is written to the NAND Flash once and is only read afterwards. For such cases the firmware can be optimized in order to guarantee highest possible data retention and less read disturb.

TRIM SUPPORT

The TRIM command allows the operating system to inform the SSD which blocks of data are no longer considered in use and can be wiped internally which increases system performance in following write accesses. With TRIM Support data scrap can be deleted in advance which otherwise would slow down future write operations to the involved blocks.

LOW POWER CONSUMPTION

Lower power consumption in electronic devices increases the value of the product as they save energy cost, prolong battery life time and reduce heat generation in the device and hence require less cooling.

swissbit®

CARE MANAGEMENT

Various effects like data retention, read disturb limits or temperature can impact data reliability. The latest generation of Swissbit products use special methods to maintain and refresh the data for longer data reliability.

LONGEVITY

The longevity product lines use special components with a long-term commitment of up to 10years. They allow for an optimized TCO model for critical applications or high qualification investments.

SECURITY FEATURES

TRUE HARDWARE RNG

True random numbers are generated inside the secure element. True randomness is the key prerequisite for secure systems to prevent brute force attacks. Swissbit products provide secure standards, with customization options.

DIGITAL SIGNATURE AND VERFICATION

Digital signatures are very popular and inevitable to protect from manipulation of data and code, Swissbit Security products offer this function in a modularized and secure way to achieve higher system security.

HARDWARE BASED DATA ENCRYPTION

Hardware based security is key when it comes to replaceability, simple workflows and trusted runtime environments, Swissbit security products offer security in combination with reliable flash memory.

MOBILE BANKING AND ePURSE

Swissbit Security products for mobile banking and payment offer strong authentication and offline security.

DEVICE PROTECTION BY DUAL FACTOR AUTHENTICATION

The high end of authentication is dual factor authentication, The user needs to have the card and needs to know the PIN secret. With Swissbit Security products mobile devices and systems are much more secure.

SECURE VOICE

Secure Voice calls are a requirement for confidential communication. Swissbit Security products are optimal for fast, secure, and user friendly secure voice solutions.

ELLIPTIC CURVE CRYPTOGRAPHY SUPPORT

Elliptic curves are fast and more efficient compared to RSA cryptography. Swissbit Security offer extreme security inside the microSD card by this feature.

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